Remarks/Arguments

Status of Claims

Claims 1-20 were originally filed in the application. By the previous paper, Claims 1-10 have been canceled. The pending Claims 11-20 are currently under consideration. No changes have been made to the claims in this paper.

Rejections

Claim Rejection – 35 USC § 103

Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leffell et al., US Pat. No. 4,894,547 ("Leffell"). Applicants respectfully traverse this rejection.

The present invention as defined in Claim 11 relates to a method of determining skin health of an area of skin. The method includes (i) exposing a first area of skin to a first exposure radiation to induce said area of skin to emit a first fluorescent emission, wherein said first exposure radiation comprises primarily of wavelengths of from about 290 nm to about 300 nm and wherein said first area of skin was exposed to said treatment; (ii) measuring the intensity of said first fluorescent emission having a wavelength of from about 320 nm to about 350 nm; (iii) exposing said first area of skin to a second exposure radiation to induce said area of skin to emit a second fluorescent emission, wherein said second exposure radiation comprises primarily of wavelengths of from about 330 nm to about 420 nm; (iv) measuring the intensity of said second fluorescent emission having a wavelength of from about 380 nm to about 470 nm; (v) calculating a ratio of said intensity measured in step (ii) to said intensity measured in step (iv); (vi) repeating steps (i) to (v) for a second area of skin, wherein said second area of skin was not exposed to said treatment; and (vii) comparing said ratio for said first area of skin to said ratio for said second area of skin; and (viii) determining and reporting the effect of the skin treatment based on said compared ratios.

Leffell purports to disclose a method and apparatus for inducing fluorescence in human skin, in vivo, and for evaluating certain skin characteristics from the spectral intensity of induced fluorescence. The energy of a helium-cadmium laser (having a wavelength of approximately 325 nm) is directed to a skin area to be evaluated by a fiberoptic element. Quantifying and evaluating induced fluorescence includes measuring the intensity of induced fluorescence over a predetermined frequency band and using the measure of intensity as a basis to make comparisons between different test subject areas.

The Office Action indicates that Leffell discloses most elements of the method of Claim 1; however, it admits that the reference fails to disclose two wavelengths of about 295 nm and about 390 nm to 410 nm. It then argues that these are within the ultraviolet range and that it would have been obvious to use these incident wavelengths. The Action also admits that the reference fails to disclose measuring fluorescent emission intensity at about 340 nm and about 440 nm. It argues that it is well known that incident light at 295 nm causes fluorescence at about 345 nm and that incident light at about 370 nm causes fluorescence at about 420-570 nm.

Applicants respectfully submit that the Office's unsupported conclusion that the use of the claimed incident wavelengths is obvious is insufficient to establish a prima facie case of obviousness. Applicants respectfully submit that by calculating the ratio of step (ii) to step (iv), Applicants have canceled the effects of skin pigmentation and are assessing fluorescence and associated tryptophan levels, which are associated with cell proliferation and therefore relate to the health of the skin. Contrary to this approach, Leffell creates a ratio that cancels the effects of fluorescence to show pigmentation.

Applicants respectfully submit that the claimed ranges (incident and fluorescent) and normalization of data through taking the ratio of step (ii) to step (iv) are both novel and not obvious. Applicants also submit that the use of these ranges provides distinct advantages over the prior art as discussed in the present specification. Reconsideration of this rejection is earnestly solicited.

Applicant believes that the foregoing presents a full and complete response to the outstanding Office Action. Applicant looks forward to an early notice of allowance for this application.

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